

Artemisia cana / Pascopyrum smithii Shrubland

COMMON NAME Coaltown Sagebrush / Western Wheatgrass Shrubland
SYNONYM Silver Sagebrush / Western Wheatgrass Shrubland
PHYSIOGNOMIC CLASS Shrubland (III)
PHYSIOGNOMIC SUBCLASS Evergreen shrubland (III.A)
PHYSIOGNOMIC GROUP Microphyllous evergreen shrubland (III.A.4)
PHYSIOGNOMIC SUBGROUP Natural/Semi-natural (III.A.4.N)
FORMATION Temporarily flooded microphyllous shrubland (III.A.4.N.c)
ALLIANCE ARTEMISIA CANA TEMPORARILY FLOODED SHRUBLAND ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 1

USFWS WETLAND SYSTEM Terrestrial

RANGE

Badlands National Park

Silver Sagebrush / Western Wheatgrass Shrublands are widely distributed within Badlands NP, but are mostly confined to drainage bottoms, where they occupy sediment deposits between meanders.

Globally

This community is found in western North and South Dakota, eastern Montana, and is rare in Nebraska.

ENVIRONMENTAL DESCRIPTION

Badlands National Park

Silver sagebrush shrublands occur most commonly on level sites between the meanders of minor drainages, creeks, and rivers. Sometimes this shrubland also occurs on gentle to moderate hillslopes and along the edges of broad drainages. The dominant shrub, silver sagebrush, is a minor component of several other shrub communities throughout the park. Western wheatgrass is a graminoid that is dominant throughout the park.

Globally

This community occurs on flat alluvial deposits on floodplains, terraces or benches, or alluvial fans. The soils are moderately deep to deep (USFS 1992) and either silt loam, clay loam, or sandy loam (Johnston 1987, Hansen and Hoffman 1988). The soils may have moderate salt content (Hansen and Whitman 1938). Flooding occurs periodically and this tends to retard soil profile development (Hirsch 1985).

MOST ABUNDANT SPECIES

Badlands National Park

<u>Stratum</u>	<u>Species</u>
Shrub	<i>Artemisia cana</i>
Herbaceous	<i>Bromus japonicus</i> , <i>Bouteloua gracilis</i> , <i>Pascopyrum smithii</i>

Globally

<u>Stratum</u>	<u>Species</u>
Short Shrub	<i>Artemisia cana</i>
Graminoid	<i>Bouteloua gracilis</i> , <i>Nassella viridula</i> , <i>Pascopyrum smithii</i>

CHARACTERISTIC SPECIES

Badlands National Park

Artemisia cana, *Pascopyrum smithii*, *Bouteloua gracilis*

Globally

Artemisia cana, *Nassella viridula*, *Pascopyrum smithii*

OTHER NOTABLE SPECIES

Globally

<u>Stratum</u>	<u>Species</u>
Short Shrub	<i>Gutierrezia sarothrae</i> , <i>Symphoricarpos occidentalis</i>
Graminoid	<i>Koeleria macrantha</i> , <i>Poa pratensis</i> , <i>Stipa comata</i>

VEGETATION DESCRIPTION

Badlands National Park

Silver sagebrush shrublands at Badlands NP typically have sparse to moderate cover, the values ranging from 15-50%. The shrub cover of silver sagebrush (*Artemisia cana*) is variable, but typically is between 10 and 25%. Recently flooded sites have a large amount of bare ground between individual shrubs, but sites that are relatively undisturbed are well-covered by western wheatgrass (*Pascopyrum smithii*) and blue grama (*Bouteloua gracilis*).

USGS-NPS Vegetation Mapping Program

Badlands National Park

Globally

This community is dominated by a combination of shrubs and graminoids. The total vegetation cover is typically moderate, but depends on frequency of flooding. The USFS (1992) found that on 14 stands in western North Dakota, shrubs averaged 28 percent canopy cover, graminoids 59 percent, and forbs 2 percent. The tallest and most conspicuous stratum is a shrub layer that is usually 0.6-1.2 m, but it may be as short as 0.4 m or as tall as 1.5 m (Hansen and Hoffman 1988). The variation in soils within and between stands of this community results in variable species composition. *Artemisia cana* and *Pascopyrum smithii* are the dominant shrub and graminoid species, respectively. *Symphoricarpos occidentalis* is frequently present. There are also shorter shrubs such as *Artemisia frigida*, *Krascheninnikovia lanata*, *Rosa woodsii*, and *Gutierrezia sarothrae*. The most abundant graminoid is *Pascopyrum smithii*. This species is typically 0.5-1.0 m tall. It is often accompanied by *Nassella viridula* and sometimes *Koeleria macrantha*, *Poa pratensis*, and *Stipa comata*. *Bouteloua gracilis* is the most abundant short graminoid. Typical forb constituents of this community are *Achillea millefolium*, *Gaura coccinea*, *Sphaeralcea coccinea*, and *Lactuca tatarica* var. *pulchella*.

CONSERVATION RANK G4.

DATABASE CODE Cegl001072

MAP UNITS The Silver Sagebrush / Western Wheatgrass Shrubland community is mapped under map class 31 (Silver sagebrush / Western wheatgrass Shrubland) of the Badlands NP vegetation map.

SIMILAR ASSOCIATIONS

COMMENTS

Badlands National Park

Silver sagebrush shrubland communities are relatively common within Badlands NP, even though confined largely to drainages. Floristically, it is quite simple, usually with only a few species present in a plot. This community was well-sampled during field research at Badlands NP.

Globally

Periodic flooding occurs in many stands of this community.

REFERENCES

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